North Carolina Department of Transportation

Chapter 6 Resilience

January 2022

Revisions Sheet			
Page	**Old Section**	**New Section**	**Description**
-	-	-	• Entire Chapter revised to new format • Previous version of Chapter 6 has been combined with Chapter 5. This Chapter will be a new chapter and is reserved for future updates.
1	8.5.2.1	6.1	This section was moved from Chapter 8
1	3.6	6.1.1	This section was moved from Chapter 3

Table of Contents: Chapter 6, Resilience

6.1. Introduction

Transportation infrastructure is designed to handle impacts of a changing climate, such as sea level rise, increased frequency and magnitude of heavy precipitation and tropical storms, etc. Preparing for extreme weather events is critical to protecting the integrity of transportation and ecological (floodplain and wetland) systems and prudent investment of taxpayer dollars.

NCDOT is currently developing policies to address climate change and extreme weather events. The NCDOT staff will seek to follow FHWA's policy and guidance to develop cost-effective strategies to minimize climate and extreme weather risks and protect transportation infrastructure. For example, the design engineer will follow the *FHWA publication Highways in the River Environment – Floodplains, Extreme Events, Risk, and Resilience, HEC-17 (FHWA-HIF-16-018), June 2016* (FHWA, R.T. Kilgore, G.R. Herrmann, W.O. Thomas, Jr., D.B. Thompson (authors) 2016) as necessary, *Highways in Coastal Environment – Third Edition (FHWA-HIF-19-059)* (FHWA, Scott L. Douglass, Bret M. Webb (authors) 2020)

6.1.1. Project Commitment Regarding Climate Change and Extreme Weather Events

When necessary, project commitments may need to include language to address climate change and extreme weather mitigation measures and design strategies. The language below is an example of a commitment statement that may be used:

Hydraulics Unit and Roadway Design Unit commitment:

NCDOT will follow FHWA's policy as set forth in FHWA Order 5520, "Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events" and guidance as set forth in FHWA's publications "Highways in the River Environment-Floodplains, Extreme Events, Risk, and Resilience" June 2016, (FHWA, R.T. Kilgore, G.R. Herrmann, W.O. Thomas, Jr., D.B. Thompson (authors) 2016) *and Highways in Coastal Environment – Third Edition (FHWA-HIF-19-059)* (FHWA, Scott L. Douglass, Bret M. Webb (authors) 2020) *to minimize climate and extreme weather risks and protect transportation infrastructure.*

6.2. Reserved

This section is reserved for future updates

6.3. References

FHWA, R.T. Kilgore, G.R. Herrmann, W.O. Thomas, Jr., D.B. Thompson (authors). 2016. "Highways in the River Environment - Floodplains, Extreme Events, Risk and Resilience; Hydraulic Engineering Circular 17, 2nd Edition (HEC-17)." *Federal Highway Administration, U.S. Department of Transportation.* June. https://www.fhwa.dot.gov/engineering/hydraulics/pubs/hif16018.pdf.

FHWA, Scott L. Douglass, Bret M. Webb (authors). 2020. *Highways in the Coastal Environment (HEC-25) - Third Edition.* Federal Highway Administration, U.S. Department of Transportation. January. Accessed November 2021. https://www.fhwa.dot.gov/engineering/hydraulics/pubs/hif19059.pdf.